



TABLE OF CONTENTS

VOLUME 1

	PAGE
Section 1 Introduction	1-1
Section 2 Regulatory Environment – Facilities and Operations	2-1
2.1 Introduction.....	2-1
2.2 Federal Aviation Administration	2-1
2.3 International Civil Aviation Organization (ICAO).....	2-6
2.4 National Fire Protection Association (NFPA).....	2-7
Section 3 Regulatory Environment – Environmental.....	3-1
3.1 Introduction.....	3-1
3.2 Environmental Policy Act.....	3-1
3.3 Construction-Related Environmental Concerns	3-1
3.4 Operations-Related Environmental Concerns.....	3-2
3.5 Key Environmental Impact Categories.....	3-3
3.6 Federal, State, and Local Regulations, Permits or Approvals Required.....	3-7
Section 4 Facility Utilization	4-1
4.1 Arizona Airport Users.....	4-1
4.2 Arizona Military Users	4-2
4.3 Out of State Airport Users	4-2
4.4 Non-Airport Users	4-5
4.5 Facility Demand.....	4-6
Section 5 Available Technology	5-1
5.1 Facility Components	5-1
5.2 Types of ARFF Training Facilities	5-2
5.3 Comparison of ARFF Training Systems.....	5-8
5.4 Characteristics of Large-Scale ARFF Training Facilities.....	5-11
5.5 Additional Considerations, Examples and Products.....	5-11



Section 6 Site Selection 6-1

6.1 Methodology 6-1

6.2 Potential Sites..... 6-1

6.3 Site Suitability..... 6-15

6.4 Site Selection 6-18

Section 7 Layout, Design and Cost Estimate..... 7-1

7.1 Facility Layout..... 7-1

7.2 Facility Design..... 7-4

7.3 Facility Cost Estimate 7-5

Section 8 Financial Feasibility 8-1

8.1 Available Data Sources..... 8-1

8.2 Methodology 8-3

8.3 Financial Feasibility Scenarios 8-4

8.4 Financial Feasibility Analysis Summary 8-7

Section 9 Potential Liabilities..... 9-1

9.1 Technology 9-1

9.2 Maintenance Requirements..... 9-2

9.3 Economics..... 9-2

9.4 Safety 9-3

9.5 Environmental..... 9-4

Section 10 Development Recommendations 10-1



LIST OF TABLES

Table 2.01 Part 139 ARFF Indices
Table 2.02 ARFF-Related Training Requirements and Guidelines

Table 3.01 Characteristics of Fire Fighting Training Wastewater
Table 3.02 Characteristics of AFFF Fire Suppression Wastewater
Table 3.03 Federal Regulations, Permits, Approvals Required
Table 3.04 Arizona State Permits, Regulations and Approvals

Table 4.01 Arizona Public Use Airports
Table 4.02 Regional Non-Arizona Airports
Table 4.03 Airport Users, ARFF Index, and Firefighters
Table 4.04 Non-Airport Users, Arizona Fire Departments
Table 4.05 Current and Future ARFF Indices, Arizona Part 139 Airports
Table 4.06 Current and Future Numbers of ARFF Trainees, Arizona Part 139 Airports

Table 5.01 Comparison of ARFF Training Systems
Table 5.02 FAA Grant Funded ARFF Training Facilities

Table 6.01 Site Selection Criteria and Importance
Table 6.02 Summary Site Matrix

Table 7.01 Regional ARFF Training Academy Preliminary Cost Estimate

Table 8.01 Summary of Capital / Construction Costs
Table 8.02 Summary of Operation and Maintenance Costs
Table 8.03 Regional ARFF Firefighters Demand by Type and Location
Table 8.04 ARFF Regional Training Facility Scenario One – 1527 Users
Table 8.05 ARFF Regional Training Facility Scenario One – 763 Users
Table 8.06 ARFF Regional Training Facility Scenario Two – 1527 Users
Table 8.07 ARFF Regional Training Facility Scenario Two – 763 Users
Table 8.08 ARFF Regional Training Facility Scenario Three – 1527 Users
Table 8.09 ARFF Regional Training Facility Scenario Three – 763 Users
Table 8.10 Financial Feasibility Analysis Summary



EXHIBITS

- Exhibit 5.01 Generic ARFF Training Facility Layout
- Exhibit 5.02 FLH Training Simulation
- Exhibit 5.03 FLH Training Simulation
- Exhibit 5.04 Training Simulation with Smoke Reducing Fuel Additive
- Exhibit 5.05 Propane Burn Pit Training
- Exhibit 5.06 Propane Nacelle Fire Training
- Exhibit 5.07 Generic Mobile ARFF Training System

- Exhibit 6.01 Arizona Potential ARFF Training Facility Sites and Arizona Part 139 Airports
- Exhibit 6.02 Potential ARFF Site – Boeing-Mesa
- Exhibit 6.03 Potential ARFF Site – Holbrook
- Exhibit 6.04 Potential ARFF Site – Phoenix
- Exhibit 6.05 Potential ARFF Site – Pinal County Airpark
- Exhibit 6.06 Potential ARFF Site – Prescott Municipal Airport
- Exhibit 6.07 Potential ARFF Site – Embry-Riddle Aeronautical University
- Exhibit 6.08 Potential ARFF Site – Taylor
- Exhibit 6.09 Potential ARFF Site – Tucson International Airport
- Exhibit 6.10 Potential ARFF Site – Williams Gateway Airport
- Exhibit 6.11 Potential ARFF Site – Yuma
- Exhibit 6.12 Potential ARFF Site – Yuma
- Exhibit 6.13 Site Selection Scoring

- Exhibit 7.01 Phoenix Fire Training Academy Proposed Layout
- Exhibit 7.02 Regional ARFF Training Facility Proposed Layout